



Boeing Knowledge Management

By Jim Coogan

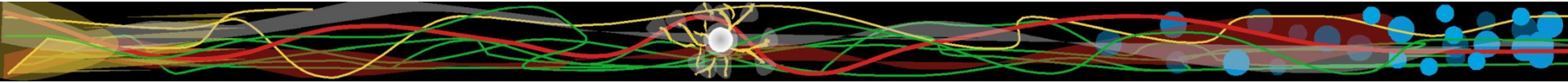
Associate Technical Fellow

KM/Knowledge Based Environments

November 21, 2008



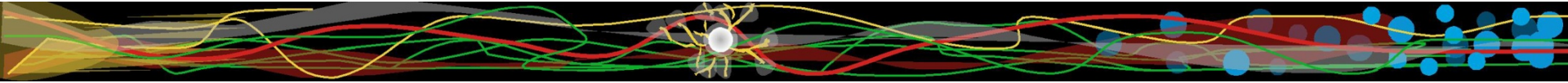
History



- Founded in 1916 in Puget Sound, Washington
- Became a leading producer of military and commercial aircraft
- Undertook a series of strategic mergers and acquisitions to become the world's largest, most diversified aerospace company
 - Aerospace pioneers now part of the Boeing enterprise include:
 - North American Aviation
 - McDonnell Douglas
 - Rockwell International (space and defense business)
 - Hughes Space & Communications
 - Jeppesen

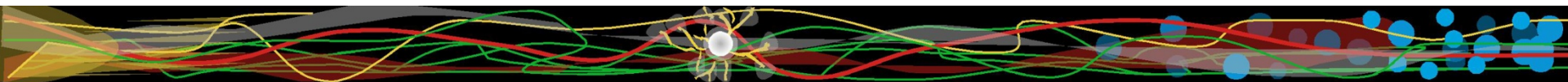
A heritage that mirrors the history of flight

Global Boeing



- Customers in more than 90 countries
 - Total revenue in 2007: \$66.4 billion (41 percent from international sales)
 - 70 percent of commercial airplane revenue historically from customers outside the United States
- Manufacturing, service and technology partnerships with companies around the world
 - Contracts with 22,000 suppliers and partners globally
- Research, design and technology-development centers and programs in multiple countries
- Headquartered in Chicago, Boeing employs more than 160,000 people across the United States (49 states) and in 70 countries.
 - More than 83,800 of our people hold college degrees--including nearly 29,000 advanced degrees--in virtually every business and technical field from approximately 2,800 colleges and universities worldwide.

Partnering worldwide for mutual growth and prosperity



Vision 2016

People working together as a global enterprise for aerospace leadership



Strategies

Run healthy core businesses
Leverage strengths into new products and services
Open new frontiers

Core competencies

Detailed customer knowledge and focus
Large-scale systems integration
Lean enterprise

Values

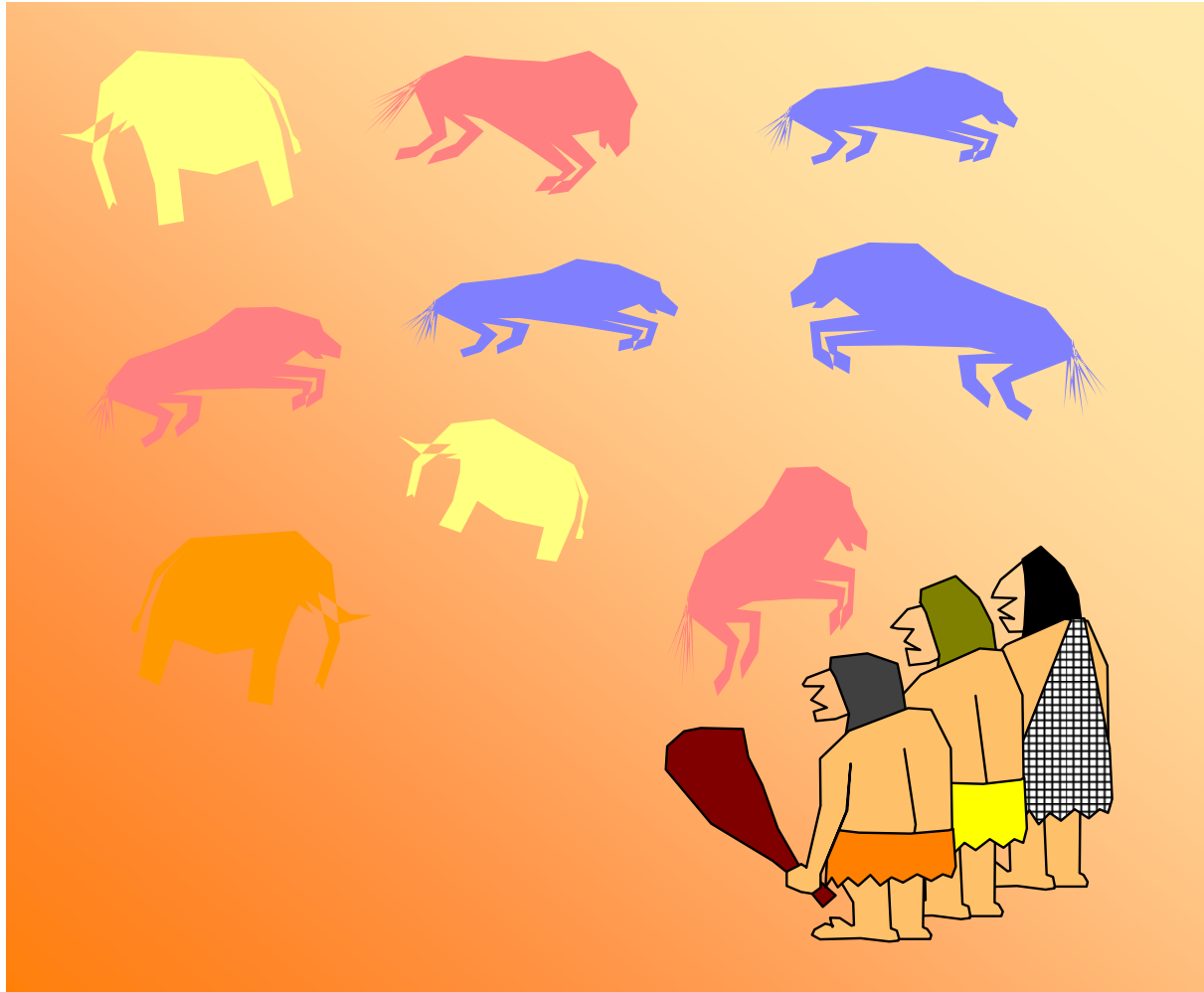
Leadership
Integrity
Quality
Customer satisfaction
People working together
A diverse and involved team
Good corporate citizenship
Enhancing shareholder value

Boeing Knowledge Management



Communication and knowledge sharing

35,000+ years ago



What animals are in the area that we can eat?

What animals are in the area that will eat us?

Knowledge Management

Vision

“Knowledge without Borders”

We are a borderless environment where knowledge is instantly leveraged for innovation, competitive advantage, sustainable performance, and enhanced productivity. This environment empowers an adaptable and agile workforce to rapidly respond to market drivers and anticipate customer needs.

KM Model

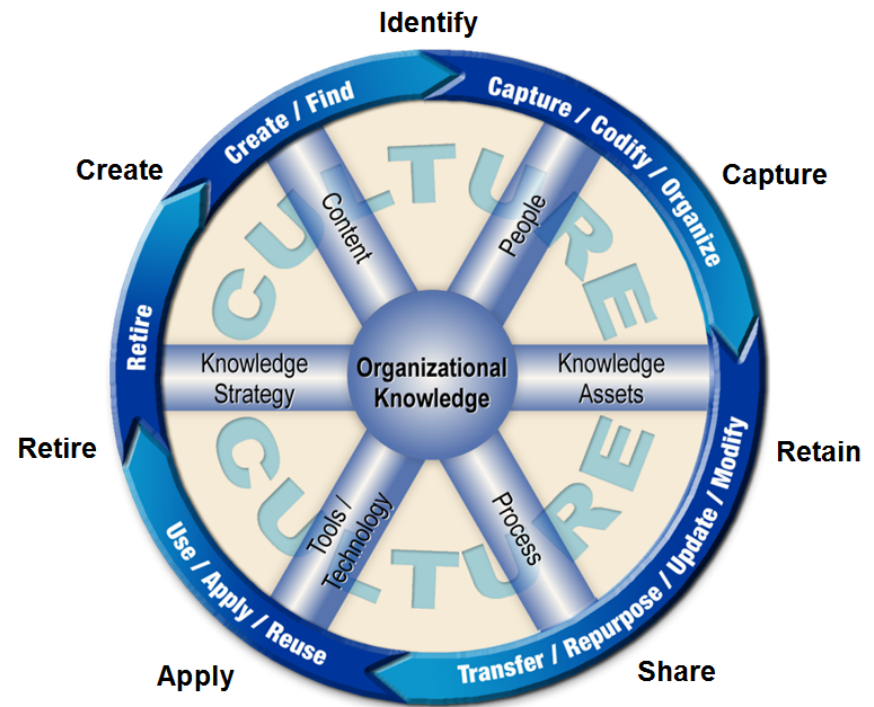
Definition

Knowledge Management is a disciplined, holistic approach to effectively utilize expertise for competitive advantage.

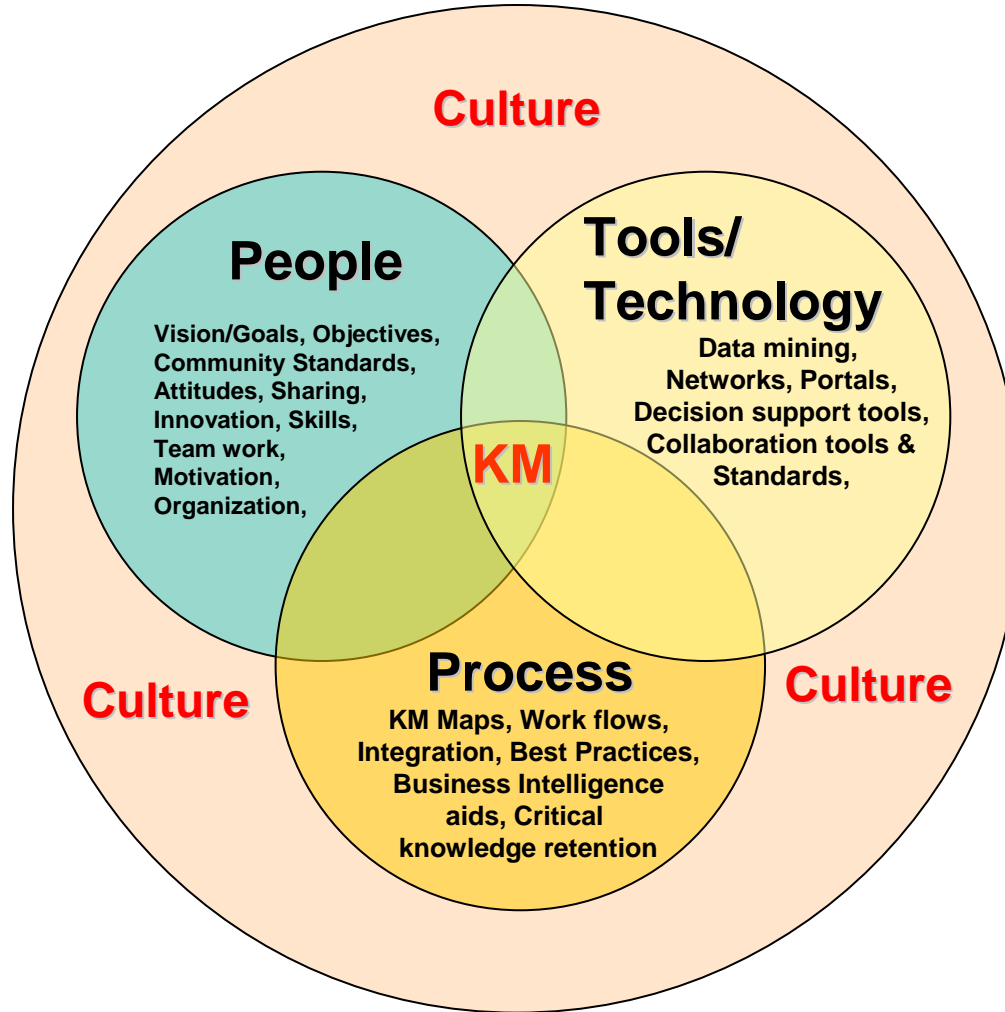


KM Wheel

- Knowledge Management at Boeing takes a holistic approach to use knowledge for competitive advantage.
- The knowledge management model, shared by Commercial Airplanes and Integrated Defense Systems, depicts the “life cycle” of knowledge management, from knowledge creation through retirement.
- Knowledge and learning are part of a continuous cycle: The retirement of some knowledge can lead to the creation or discovery of newer, more up-to-date information.
- Organizational knowledge and culture are at the heart of a system of processes, tools, methods and techniques designed to identify, capture, retain and otherwise manage knowledge through its life cycle.



KM is Holistic



Next Generation KM

Generation 1: *Tool Centric*

Generation 2: *People Centric*

Next Generation: *Knowledge Centric*

Providing employees with superior situation awareness through context based knowledge acquisition, retrieval, and management.

The merging of Knowledge Management and Learning Management to create a self learning process based environment of adaptive processes and enabling technology that promotes a highly effective, efficient, and hyper-innovative environment.

*From Information Management and Knowledge Management
to **Knowledge Entrepreneurship***

The Wisdom of Crowds

Knowledge Centric Organization/Operations

A Knowledge Centric Organization is one that organizes virtually around its critical knowledge needs and then builds useful and relevant information to fill those needs.

U.S. Navy

A knowledge based organization is one that uses its intellectual capital (people, processes, technology) to:

- Organize and share data
- Promote learning and knowledge
- Leverage its knowledge for decisive strategic advantage

U.S. Army

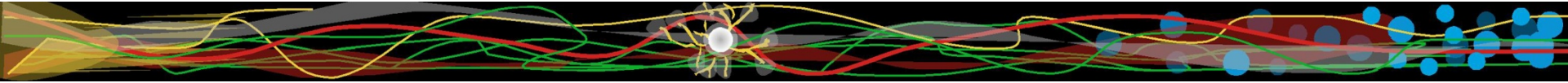
Moving from Network to Knowledge Centric Warfare. This next step is a transformation of network/information-centric-warfare's **"Power to the Edge"** to knowledge-centric warfare's **"Power of the Edge"**.

U.S. Air Force

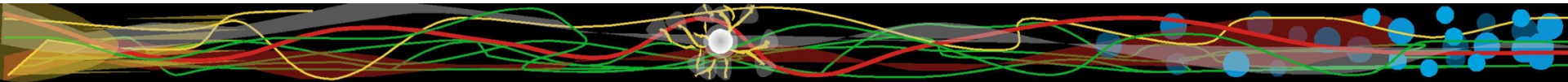
“The differences between the war fighter of the future and knowledge worker of the future is the choice of battle grounds and weapons. Both need unparalleled situation awareness and knowledge that automatically flows to the need.”

Jim Coogan - 2006

Why is it important to us?



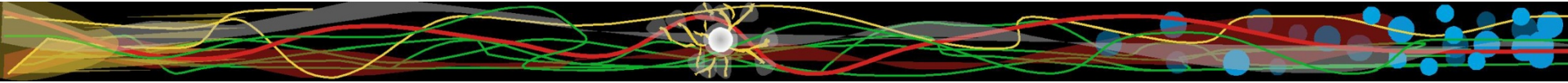
- Knowledge management matters to Boeing for many reasons. Among them:
 - Retains expertise of employees who leave the company
 - Shares expertise, best practices and lessons learned across the enterprise
 - Avoids reinvention and accelerates innovation



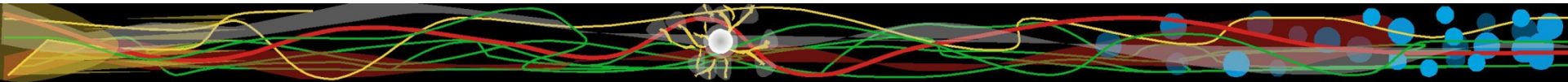
The demand for knowledge management will only accelerate as the post–World War II “baby boom” generation looks toward retirement. The oldest members of the U.S. baby-boom generation are in their early 60s. Indeed, today 18 percent of Boeing employees are eligible to retire, while another 19 percent will be eligible in five years, and another 40 percent in 10 years, according to Boeing Human Resources.

Boeing Frontiers Magazine, October 2007

KM Answers Many Questions



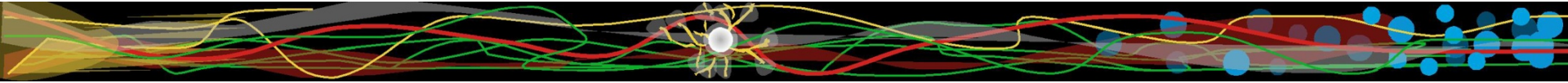
- Who has it?
- Where do they keep it?
- How do we encourage them to share it?
- How is it created?
- Who else needs it?
- How is it communicated?
- How is it kept up to date?
- How and where is it stored?
- Which knowledge is relevant, now and in the future?
- How much is it collectively worth?
- Which is the most valuable?
- Is it used in the appropriate areas/situations?
- Is knowledge shared between dissimilar domains to be applied in a different way which results in revolutionary improvements.
- What additional revenue streams can be created using existing knowledge?
- Where are areas of potential knowledge loss and how can you mitigate that loss?



Approximately 10% of what a corporation knows resides in corporate repositories.....the rest walks out the door every day.

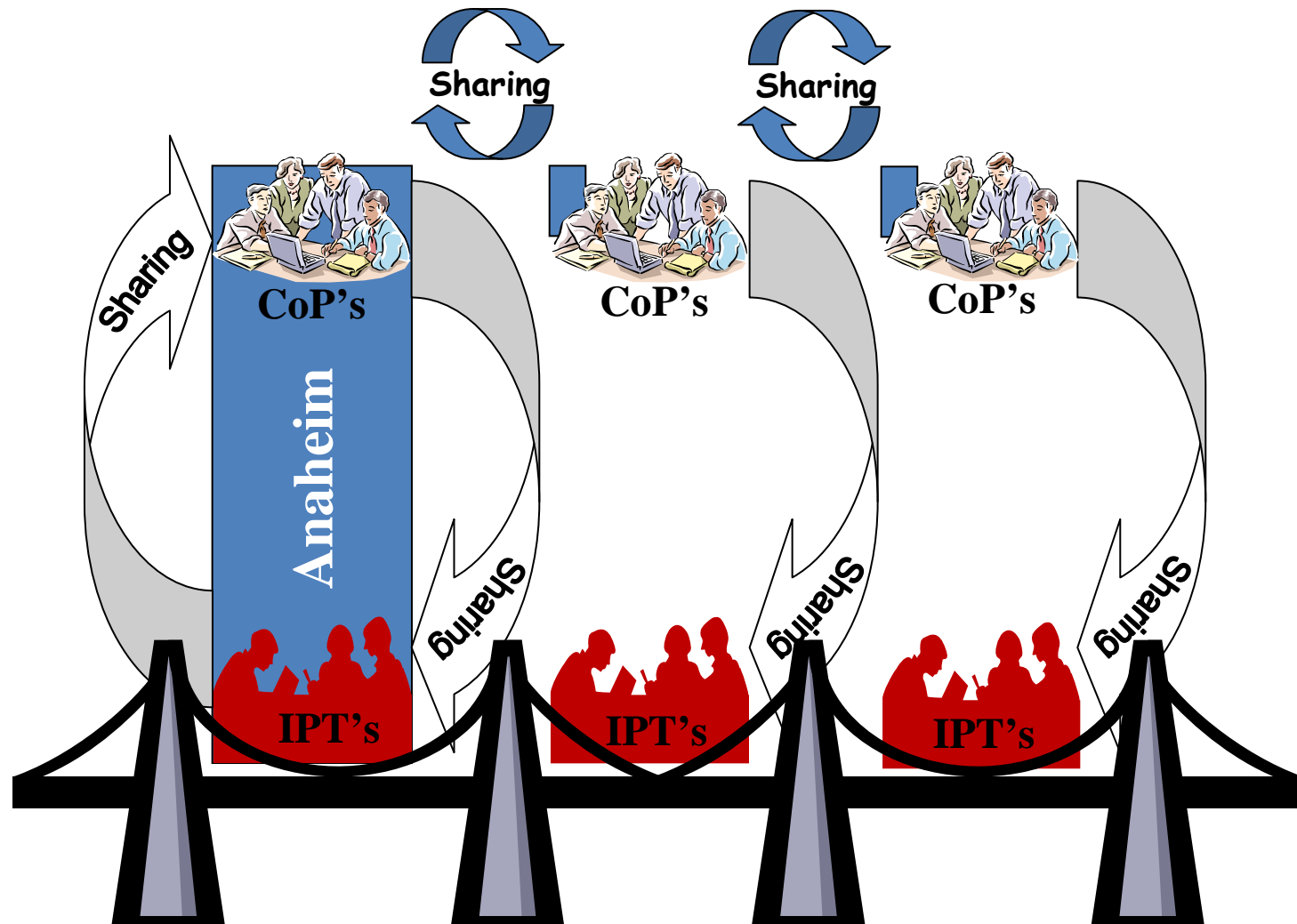
This is knowledge contained in “gray matter” and the social networks. We refer to it as tacit knowledge.

How We Share



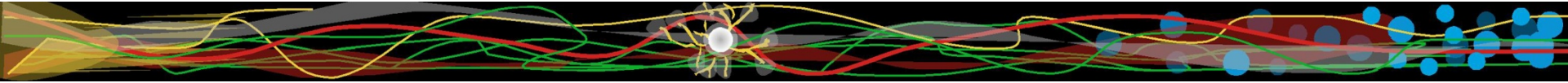
- Internal Conferences
- Share fairs
- Lunch time learning
- Storytelling
- Roundtables
- After Action Review
- Non-Advocate Reviews
- Program Reviews
- Mentoring
- Coaching
- Processes
- Job rotations
- Technical Fellowship
- White papers
- Structured knowledge capture and transfer activities
- Newsletters
- New employee orientation process
- Communities of Practice
- Expertise locator
- One on one training
- Shared work assignments – hands on
- Succession planning
- Employee involvement/KM Teams
- Embedding KM

Bridging organizational, cultural, geographical, and generational boundaries – leveraging our combined intelligence to reach new heights




CoP Deliverables: Tacit Knowledge


(how things are really done, who knows what, etc.)



- Location of knowledge
 - where it is (link)
 - who knows it (expert))
- Intent
 - Its intended purpose
- Usefulness
 - What it's actually good for
- Usability
 - Who can use it successfully and what other things are required for successful use
- Deployment
 - How you use it
 - How specifically/generally should it be taken
- Availability
 - When it was/will be available
 - Why will it be available at that time
- Knowledge gaps
 - What's missing
 - What could be recycled, reformatted, rewritten to fill the gap
 - Who could do that; why would they

Boeing KM Community of Practice




KM Community of Practice

[News Digest](#)
[Archives](#)

Overview

- [Home Page](#)
- [Introduction](#)
- [Pitches & Defn](#)
- [Readings](#)
- [Conferences](#)
- [Projects](#)

Finding

- [Best Practices/ Lessons Learned](#)
- [First Place to Look](#)
- [Books](#)
- [Quotes](#)
- [Links Pages](#)

Degrees/Certs

- [KM Education](#)

Past Sub-Teams

- [KM Seminars](#)
- [K.Transfer](#)
- [KM Roadmap](#)

[\[Introduction to KM\]](#) | [Current Meeting](#) | [Previous Meetings](#) | [Topic Tracks](#)

The Boeing Knowledge Management Community of Practice

The KM Community of Practice - sharing and exploiting knowledge for the benefit of the Boeing Company

[KM Visibility System](#) - add your KM activities, projects and knowledge sharing communities here

[KM CoP](#) Sharepoint

[KM CoP](#) SharePoint (new version)


[Common Sense KM Blog](#)

[Knowledge Management Book of Knowledge Wiki](#)

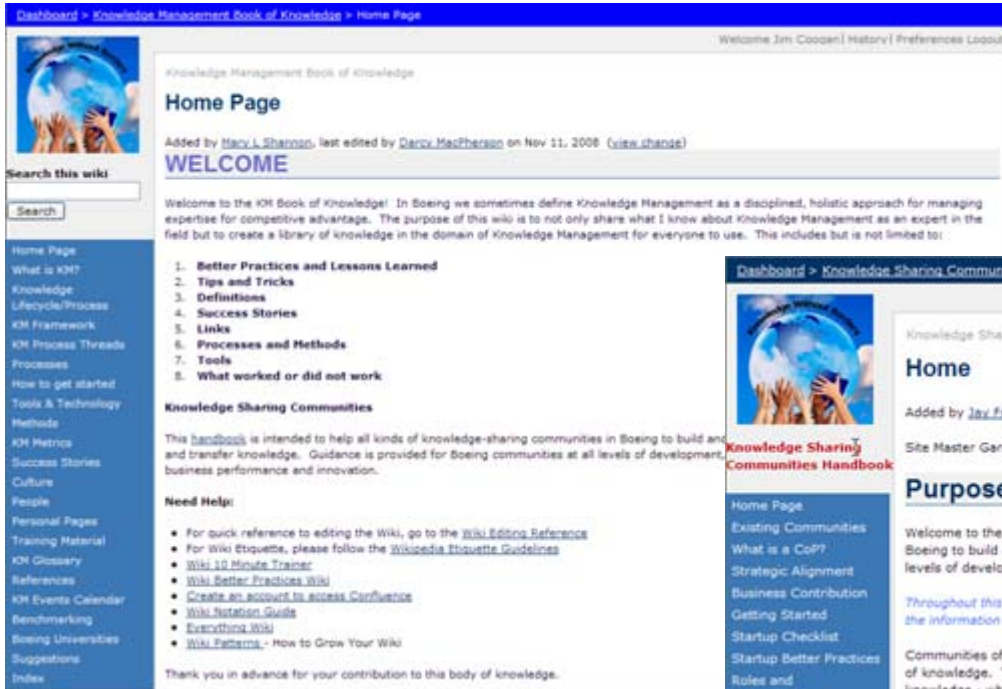
Objectives

The Boeing Knowledge Management Community of Practice is a voluntary group of [people involved in KM](#). This site documents our findings and materials used.

- We are a voluntary group, a community of practice, focused on sharing our knowledge with each other so that we can take lessons back to apply to our own projects.
- We seek to increase understanding of, and promote interest in, knowledge management.
 - Long-term strategy for KM.
 - Benefits and approaches
 - Visibility, buy-in, and understanding at upper



KM Wiki's



Dashboard > Knowledge Management Book of Knowledge > Home Page

Welcome Jim Coogan | History | Preferences | Logout

Knowledge Management Book of Knowledge

Home Page

Added by [Mary L. Shannon](#), last edited by [Darcy MacPherson](#) on Nov 11, 2008 ([view change](#))

WELCOME

Welcome to the KM Book of Knowledge! In Boeing we sometimes define Knowledge Management as a disciplined, holistic approach for managing expertise for competitive advantage. The purpose of this wiki is to not only share what I know about Knowledge Management as an expert in the field but to create a library of knowledge in the domain of Knowledge Management for everyone to use. This includes but is not limited to:

1. Better Practices and Lessons Learned
2. Tips and Tricks
3. Definitions
4. Success Stories
5. Links
6. Processes and Methods
7. Tools
8. What worked or did not work

Knowledge Sharing Communities

This [handbook](#) is intended to help all kinds of knowledge-sharing communities in Boeing to build and transfer knowledge. Guidance is provided for Boeing communities at all levels of development, business performance and innovation.

Need Help:

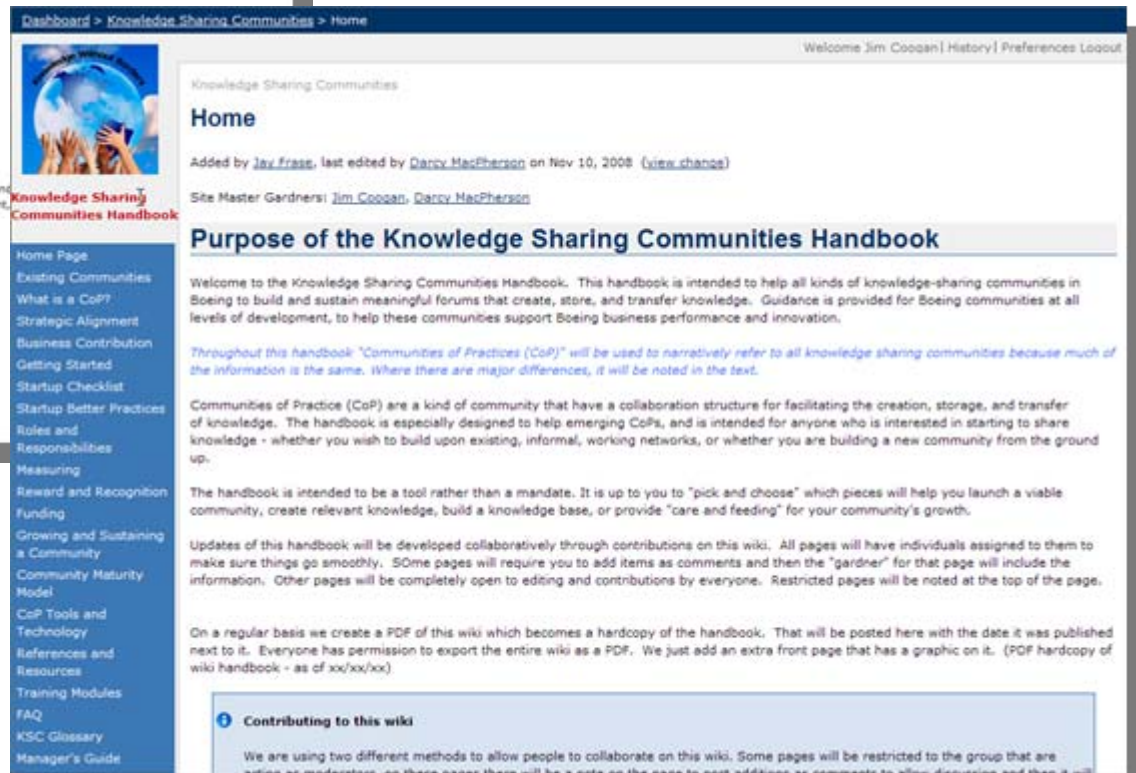
- For quick reference to editing the Wiki, go to the [Wiki Editing Reference](#)
- For Wiki Etiquette, please follow the [Wikipedia Etiquette Guidelines](#)
- [Wiki 10 Minute Trainer](#)
- [Wiki Better Practices Wiki](#)
- [Create an account to access Confluence](#)
- [Wiki Notation Guide](#)
- [Eventbrite Wiki](#)
- [Wiki Patterns](#) - How to Grow Your Wiki

Thank you in advance for your contribution to this body of knowledge.

Left Sidebar:

- Home Page
- What is KM?
- Knowledge Lifecycle/Process
- KM Framework
- KM Process Threads
- Processes
- How to get started
- Tools & Technology
- Methods
- KM Metrics
- Success Stories
- Culture
- People
- Personal Pages
- Training Material
- KM Glossary
- References
- KM Events Calendar
- Benchmarking
- Boeing Universities
- Suggestions
- Index

Knowledge Sharing Communities



Dashboard > Knowledge Sharing Communities > Home

Welcome Jim Coogan | History | Preferences | Logout

Knowledge Sharing Communities

Home

Added by [Jay Frase](#), last edited by [Darcy MacPherson](#) on Nov 10, 2008 ([view change](#))

Site Master Gardeners: [Jim Coogan](#), [Darcy MacPherson](#)

Purpose of the Knowledge Sharing Communities Handbook

Welcome to the Knowledge Sharing Communities Handbook. This handbook is intended to help all kinds of knowledge-sharing communities in Boeing to build and sustain meaningful forums that create, store, and transfer knowledge. Guidance is provided for Boeing communities at all levels of development, to help these communities support Boeing business performance and innovation.

Throughout this handbook "Communities of Practices (CoP)" will be used to narratively refer to all knowledge sharing communities because much of the information is the same. Where there are major differences, it will be noted in the text.

Communities of Practice (CoP) are a kind of community that have a collaboration structure for facilitating the creation, storage, and transfer of knowledge. The handbook is especially designed to help emerging CoPs, and is intended for anyone who is interested in starting to share knowledge - whether you wish to build upon existing, informal, working networks, or whether you are building a new community from the ground up.

The handbook is intended to be a tool rather than a mandate. It is up to you to "pick and choose" which pieces will help you launch a viable community, create relevant knowledge, build a knowledge base, or provide "care and feeding" for your community's growth.

Updates of this handbook will be developed collaboratively through contributions on this wiki. All pages will have individuals assigned to them to make sure things go smoothly. Some pages will require you to add items as comments and then the "gardner" for that page will include the information. Other pages will be completely open to editing and contributions by everyone. Restricted pages will be noted at the top of the page.

On a regular basis we create a PDF of this wiki which becomes a hardcopy of the handbook. That will be posted here with the date it was published next to it. Everyone has permission to export the entire wiki as a PDF. We just add an extra front page that has a graphic on it. (PDF hardcopy of wiki handbook - as of xx/xx/xx)

Contributing to this wiki

We are using two different methods to allow people to collaborate on this wiki. Some pages will be restricted to the group that are *action or moderator*. On these pages there will be a note on the page to not add items or comments to allow discussion and then a will

Left Sidebar:

- Home Page
- Existing Communities
- What is a CoP?
- Strategic Alignment
- Business Contribution
- Getting Started
- Startup Checklist
- Startup Better Practices
- Roles and Responsibilities
- Measuring
- Reward and Recognition
- Funding
- Growing and Sustaining a Community
- Community Maturity Model
- CoP Tools and Technology
- References and Resources
- Training Modules
- FAQ
- KSC Glossary
- Manager's Guide

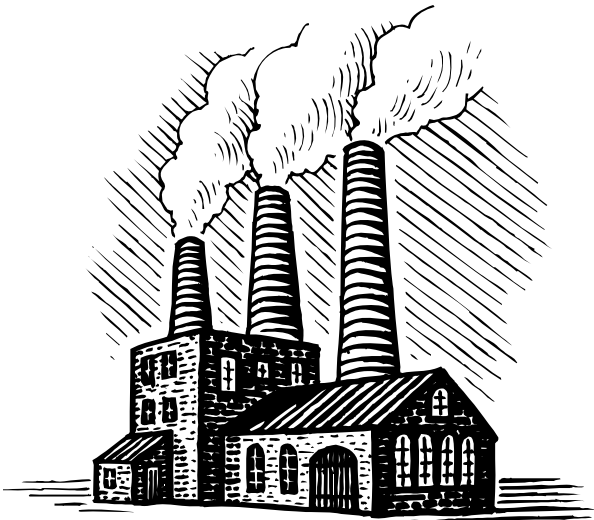
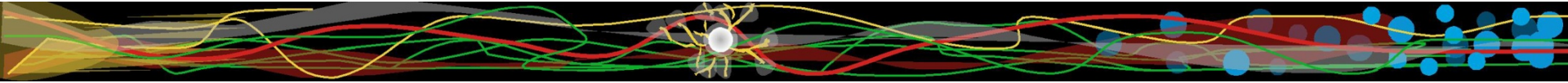
KM Book of Knowledge

A New World



- In the past, Boeing wrote detailed specifications for each part and asked suppliers to build to plan
- Today, suppliers co-design airplanes from scratch and deliver complete sub-assemblies to Boeing's factory, where a single plane can be snapped together like Lego blocks, in as little as 3 days

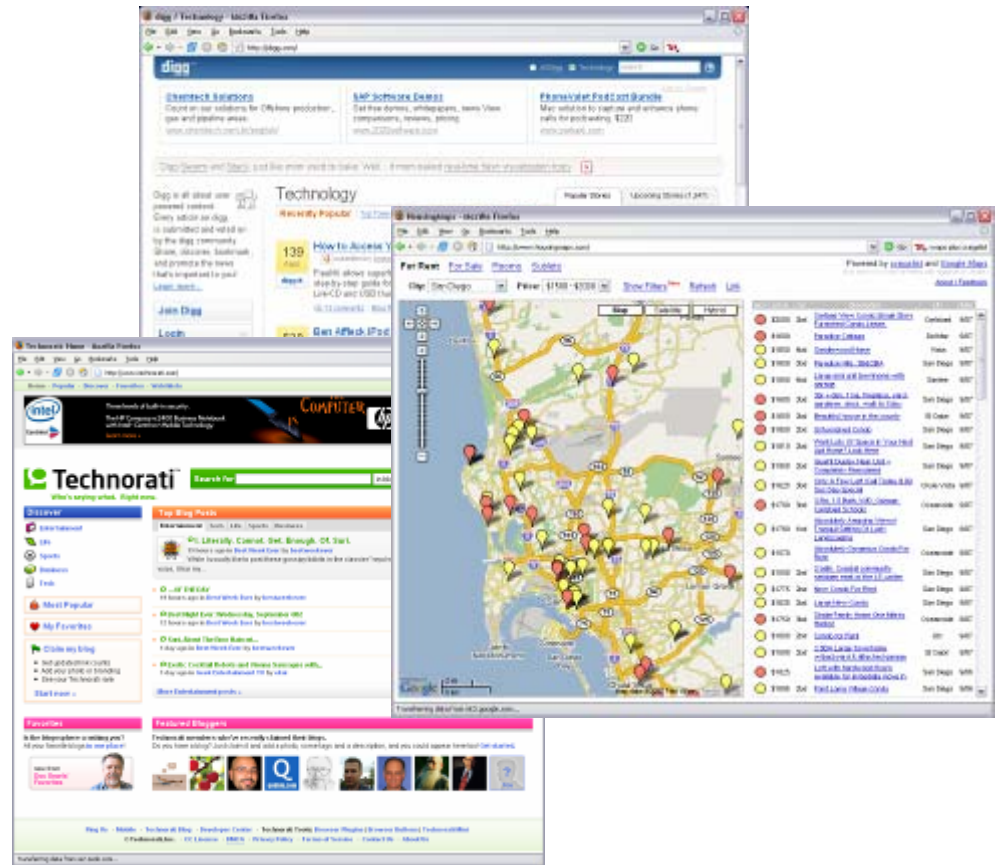
Manufacturing to Knowledge Centric



Web “2.0” Phenomenon

- Web 2.0 refers to second generation Internet-based services that **enable people to collaborate and share information online in new ways.**
- Web 2.0 uses styles and “rich” application **tools that remove clutter and improve the speed and interactivity** of online resources.
- Web 2.0 **combines tools and information from a number of sources** to create new and interesting applications.

(O'Reilly; Wikipedia)



Web 2.0 empowers users to affect the growth of the Web through *participation*.

How Millennials Communicate



A World in Transition

Web 1.0		Web 2.0
DoubleClick	-->	Google AdSense
Ofoto	-->	Flickr
Akamai	-->	BitTorrent
mp3.com	-->	Napster
Britannica Online	-->	Wikipedia
personal websites	-->	blogging
domain name speculation	-->	search engine optimization
page views	-->	cost per click
publishing	-->	participation
content management systems	-->	wikis
directories (taxonomy)	-->	tagging ("folksonomy")
stickiness	-->	syndication

Jim's Web Activities

- Del.icio.us -----> social bookmarking
- Digg -----> news social bookmarking
- Facebook -----> social networking
- Flickr -----> photo sharing
- LinkedIn -----> relationship management/social networking
- Podcast -----> MP3 podcast sharing
- Slideshare -----> share presentations
- Tteach -----> interactive knowledge sharing
- Twitter -----> sharing what you are doing
- Viddyyou -----> video blogging
- Youtube -----> video sharing
- Wikipedia -----> User built encyclopedia

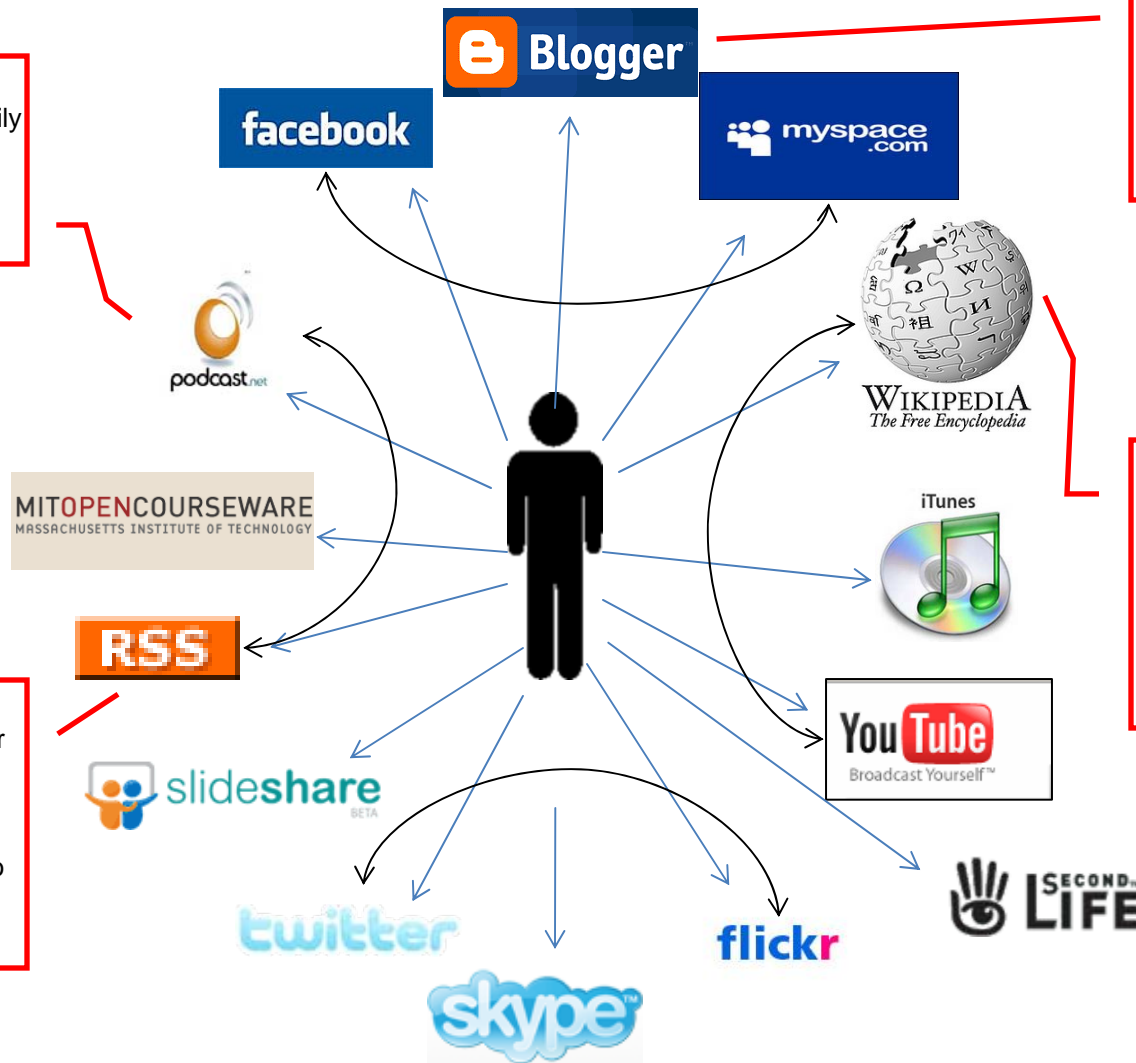
New Employees (and Jim)

A **podcast** is a multimedia (MP3) file that can be easily downloaded for playback on a computer or mobile device

Blogs provide content in journal like form and have become an information distribution tool that lends itself to an informal and chronological based format.


Wikis, while somewhat similar to blogs provide a more classification-centric way to distribute information. But unlike blogs, wikis provide a collaborative environment that enhances a community of users.

RSS provides an automatic distribution of blogs or other media to an individual. Individuals can ask for aggregations of specific types of content to be fed to them through RSS.



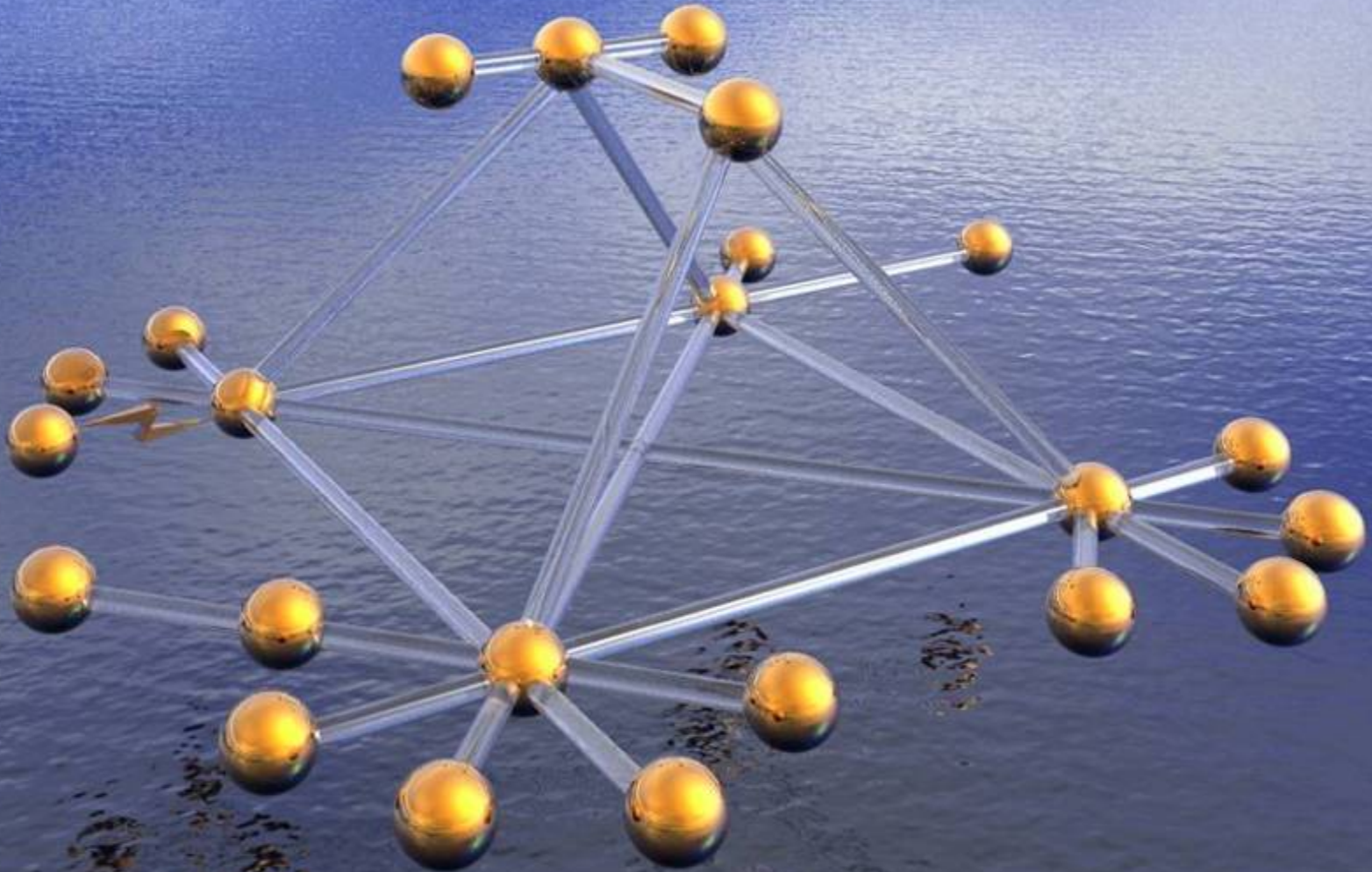
Immersive World Technology: Brainstorm new ideas, conduct classes, innovate





**We live in a world with fewer borders,
more information,
working with global partners, and
leveraging knowledge on a global scale**

In the future we will all be part of a large diverse network called Boeing

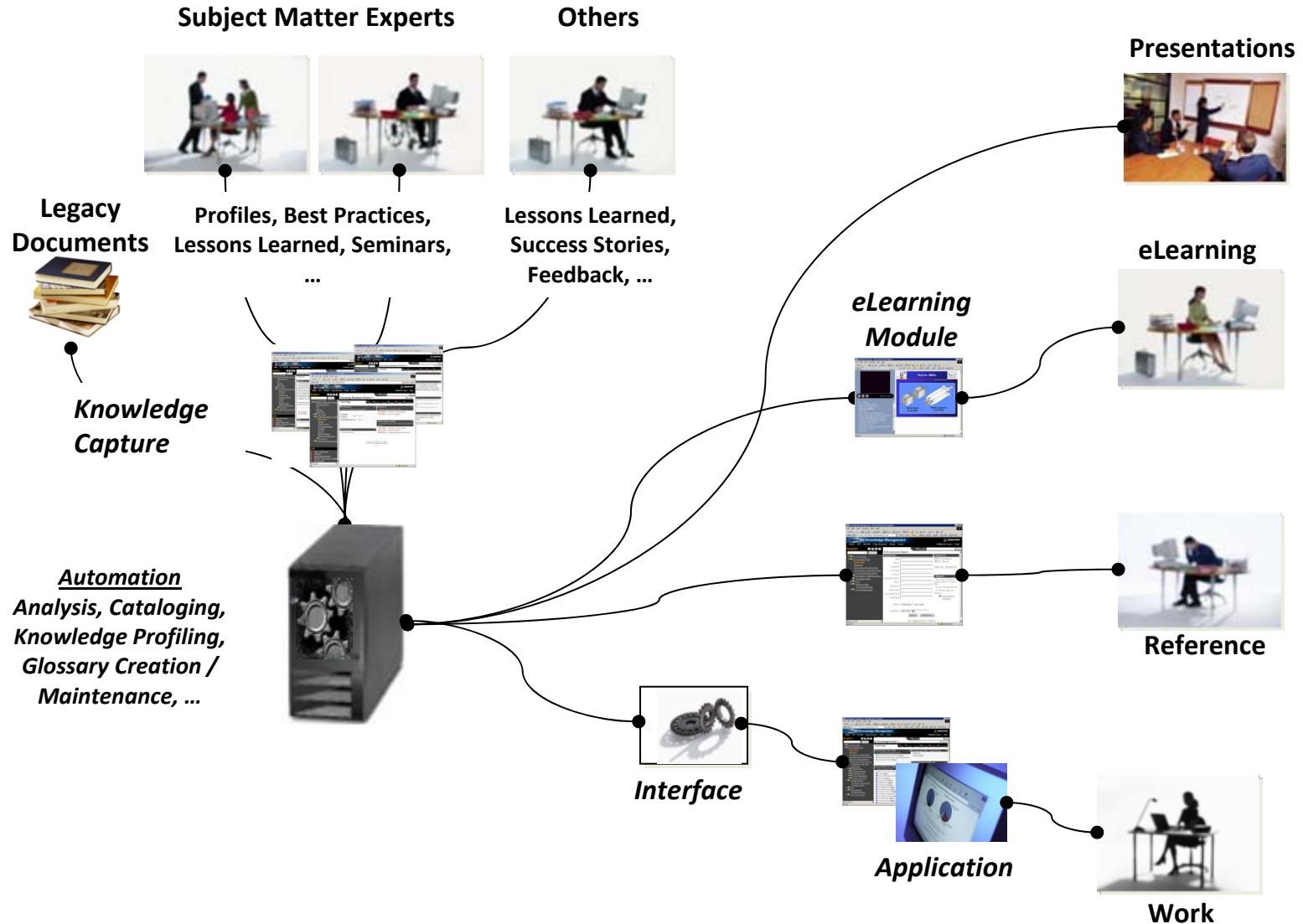


Mass Com



ssive scale

The Future - Situationally Aware Knowledge Environment



Enabling Technology

- **People to People**
 - Social networks
 - Expertise locators
 - Collaborative tools
 - CoP portals
- **People to Content**
 - Knowledge discovery
 - Intelligent push (agents)
 - Transparent search
- **People to Process**
 - Knowledge discovery
 - Smart work flows
 - JIT content delivery
 - No search search

Practical Knowledge Management

– What You Can Do -

Common Sense Knowledge Management

From the days of cave drawings to modern tools, much of Knowledge Management is just plain common sense. I consider this blog part of a knowledge publishing system. The system consists of this blog, a wiki, a document repository. The goal of this blog is to incite discussions that result in new knowledge that will be documented in a wiki I have called "KM Book of Knowledge", a future guide to Boeing KM. Attached to the wiki will be a document repository. KM is not just my job, it is my passion. Join me as I explore the world of KM with its many tributaries.

AUGUST 25, 2008

YouTube, SlideShare, Wiki's, Blogs, and You

Many of us that use logs and wikis love to use YouTube and Slideshare to describe complex ideas in a very simple manner. But you need to be careful when you do this. Our good friends in Library Services, who look out of for us when it comes to copyright compliance, posted an item on their blog called [Video and Multimedia Content - YouTube, SlideShare, etc.](#) I would definitely read this. Another worth reading is the one on [deep linking](#). Both will save you lots of grief down the line. To see how you can link to a video and open it inside a window of its own, and not use the embedded viewer, visit this [page](#) on my wiki. It demonstartees how to link directly to the YouTube video but opens it in its own window and does not use the embedded player. And remember, if in doubt, give our friends at Library Services a call.

Posted by Jim Coogan at 07:57 AM | [Permalink](#) | [Comments \(0\)](#) | [TrackBacks \(0\)](#)

JULY 22, 2008

CoP Handbook is now available

This week Darcy MacPherson and myself completed the first edition of the "CoP Handbook". It is based on training material I have used throughout Boeing along with some new material. A PDF version is available at the new [KM CoP SharePoint 2007](#) site.

The same version, with additional material is located on my wiki, the KM Book of

August 2008

Sun Mon Tue Wed Thu Fri Sat

					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	<u>25</u>	26	27	28	29	30
31						

* Metrics

Entries: 23 Comments: 71

* Search

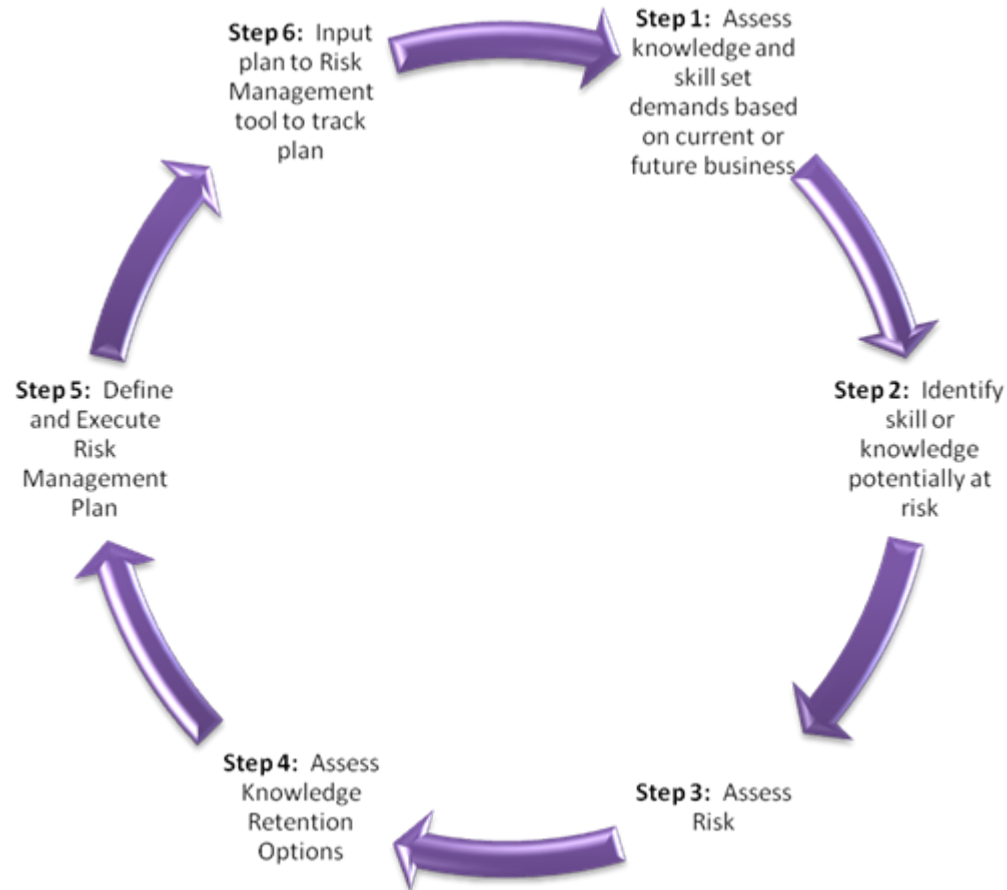
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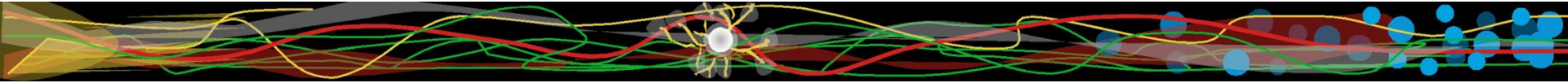
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Identifying And Retaining At Risk Knowledge



How is critical knowledge lost or put at risk?

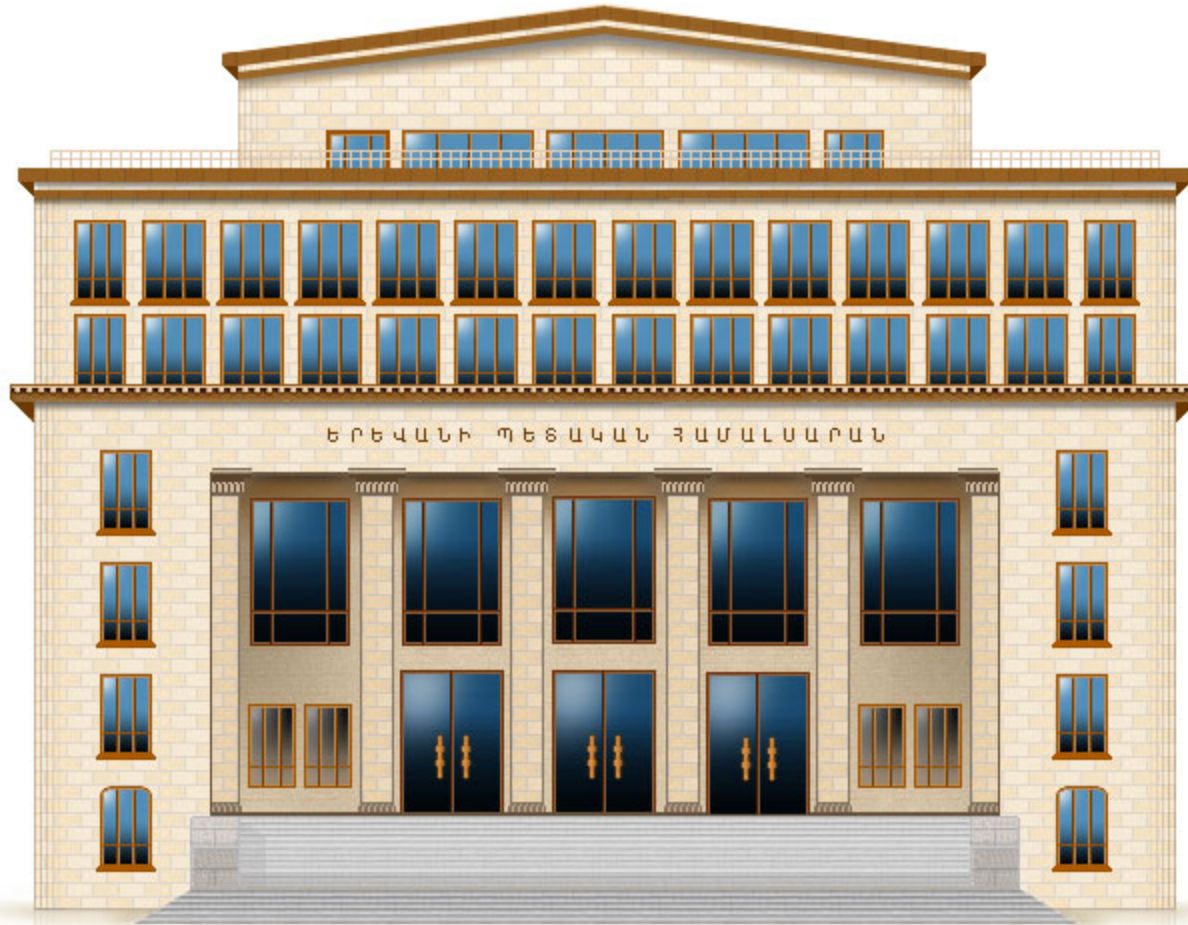


1. **An expert is overloaded**, and cannot deal with all requests for his particular knowledge and expertise. In effect, his knowledge is lost to the problems triggering those requests.
2. **The culture of the company does not encourage sharing of knowledge**. Rewards are seen to be gained by keeping knowledge to oneself, maintaining the power that knowledge can confer.
3. **A culture of blame is in existence** which discourages individuals or groups developing their knowledge through experience of innovation and risk taking.
4. **Knowledge is available but lies dormant** waiting for a catalyst to release it. For example, a person might be working in one context, yet possess substantial knowledge that might be far more use in another context.
5. **Knowledge is rejected because of the 'Not Invented Here' Syndrome**. Good ideas might be crushed because of this, and the knowledge and potential development of knowledge can be lost to the organization because it is not communicated or used.
6. **Knowledge may be lost to an organization through neglect**. Neglect includes lack of challenge so that a person's knowledge, expertise and skills become forgotten, extinct or obsolete. It includes lack of provision for acquiring new knowledge and experience.
7. **Knowledge may also be lost to the organization through retirement, redundancy, resignation or even through promotion**. When a person is promoted, new responsibilities prevent the detailed application of knowledge in the original responsibilities.

Analysis of At-Risk Skills & Knowledge

Adapted from the [Tennessee Valley Authority](#)

	Description of at-risk skills or knowledge:			
	Location of at-risk skills or knowledge (individual, individuals, repository, etc.):			
Importance	Consequences of loss	Minor cost impact Minor reliability impact	1 2 3 4 5 6 7 8 9 10	Major cost impact Major relative impact
	Breadth of problem	Localized Single	1 2 3 4 5 6 7 8 9 10	Applicable across entire program Multiple sites
	Explanation of scores:			
Immediacy	Time to transfer or re-acquire knowledge	30 days or more	1 2 3 4 5 6 7 8 9 10	Three years or more
	Gradual vs. sudden loss	Gradual – next 5 yrs	1 2 3 4 5 6 7 8 9 10	In less than 6 months
	Explanation of scores:			
Recovery	Degree of loss expected	None or minor	1 2 3 4 5 6 7 8 9 10	Complete
	Recovery difficulty	None or minor	1 2 3 4 5 6 7 8 9 10	Recovery not realistically feasible
	Rarity of skill or knowledge	Typical new hires possess the knowledge	1 2 3 4 5 6 7 8 9 10	Only one person has knowledge
	Cost to recover	None or minor	1 2 3 4 5 6 7 8 9 10	Over one million
	Can mitigate need for skill or knowledge	Need can be designed out	1 2 3 4 5 6 7 8 9 10	No way to avoid Need skill or knowledge
	Explanation of scores:			
Transfer	Codification difficulty	Easy to document knowledge	1 2 3 4 5 6 7 8 9 10	Extremely difficult document
	Tacit vs. Explicit	Can be learned or studied for	1 2 3 4 5 6 7 8 9 10	Must be learned by doing
	Shelf-life	Need not exercise to avoid loss	1 2 3 4 5 6 7 8 9 10	Nature of skill is “use it or lose it”
	Explanation of scores:			



Managing the entire knowledge lifecycle and providing a workclass collaborative workplace

Tools/Technology/Techniques to Transfer Knowledge

- Groupware
- Chat
- Discussion databases
- Video
- Audio
- Reports
- Knowledge Fairs
- Wiki and blog
- Brown Bags
- Chalkboard
- Communities of Practice
- Mentoring
- Processes
- Storytelling
- Storyboards
- Coaching

Selecting Appropriate Methods to Deliver Knowledge

One-on-One, Person-to-Person

- Job Rotations (Rotate Novices)
- Job Rotations (Rotate Experts)
- Roving experts
- Apprenticing programs
- On-site experts as part of team (Pooling of expertise)
- Expert networks
- "Water Cooler" Discussions
- "Big brother" or Sponsor relationships
- Collaborative teams



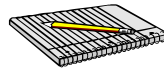
One-to-Many, Real-Time, Person-to-Person

- Classroom training sessions
- Classroom education sessions
- Video-based lectures
- Video-based interactive lectures



Passive Repositories (Documents)

- Procedures manuals
- Text books
- White papers
- Flyers on specific topics (job aides)
- Specially designed videotaped programs



One-to-Many, Media-based, Personal

- Audio or Video training and education lectures
- Televised educational courses
- Correspondence Courses
- Educational courses over computer service networks
- Bulletin boards on network



Active, Computer-Based Work Aids

- Computer applications performing "No Brainers"
- Case based reasoning systems (CBR)
- Complex reasoning systems (KBS)
- Neural nets
- Virtual reality systems



Training and Education Program

- Paper-based training manuals
- Conventional training programs
- Multimedia Computer-Based Training
- Interactive Multimedia Computer-Based Training with Feedback



Management, Infrastructure, Cultural, and Other Embedded Changes

- Policy changes
- Incentives changes
- Organization changes
- Work practice changes
- Systems and procedures changes
- Product and service changes



Things to Share

White Papers	Illustrations	Tutorials
Engineering notebook	Processes you use	Checklists
Process trees	Tip Sheets	Presentations
Acronym lists	Flowcharts	Policies & procedures
Stories	Notes	How-To's
Drawings/Diagrams	Tools (personal favorites)	Emails you kept
Product history	Contact lists	Training Guides
Job Aids/Cheat Sheets	Document trees	Photos
Paper training material	Lessons learned	"The Coca Cola Formula" – the how and why of the what and when

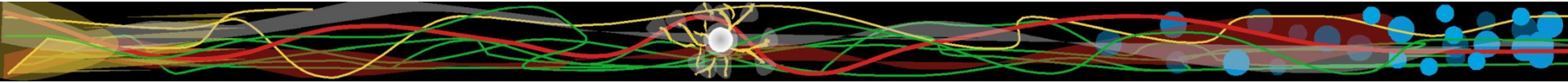
Ways to share knowledge

1. Videotape lessons learned / After Action Reviews	- videotaping allows employees to review the information as often as they like, at their convenience. It allows a lot of knowledge to be captured at one time.
2. Videotaped interviews	- subject matter experts can be interviewed or set up their own interview questions so that their insights may be captured for future use.
3. CBT (Computer Based Training)	- computer based training can be videos, PowerPoint presentations, or demonstrations that are distributed on CD's.
4. WBT (Web Based Training)	- web based training can be videos, PowerPoint presentations or any other material that are presented through a web interface.
5. Video Presentation	- the presenter is videotaped as they present their material for later use via the web or on a CD.
6. Videotaped class/seminar	- as the instructor is leading students through the class or seminar they are videotaped so the material can be reviewed at a later date.
7. Audio presentations	- digital audio recordings of presentations may be produced and distributed via the web or on a CD.
8. Presentations	- presentations can be created and distributed via the web or on a CD for later use. In addition, using PowerPoint "narration" mode allows you to capture your voice right in the presentation for playback later.

Ways to share knowledge

9. Videoconference	- videoconferencing has many of the same features as WebEx except it includes video. This can also be captured for display at a later date.
10. Self Study material	- many times there is material that does not require the student and instructor to be face to face and can be reviewed by the student as time allows. This can be reading material, presentations, or any of the other formats mentioned in this section.
11. Mentoring	- this is one on one training. This is many times the most effective but it is not always possible.
12. Software/Tool walkthrough, Demonstrations, and Simulations	- the most effective way for some people to learn is through the use of a tool or a walkthrough of the software. These sessions can be captured on video for review at a later date.

Where to focus – Practically Speaking



- Accidental collisions – the social side
- Embedding KM
 - Learning Management and KM
 - Process Based KM
 - KM on teams – learn before, during, and after
- Secure Knowledge Management – how to share knowledge in an ITAR/EAR world
- Knowledge Sharing Communities
- Distraction Management
- TRUST

Lessons Learned

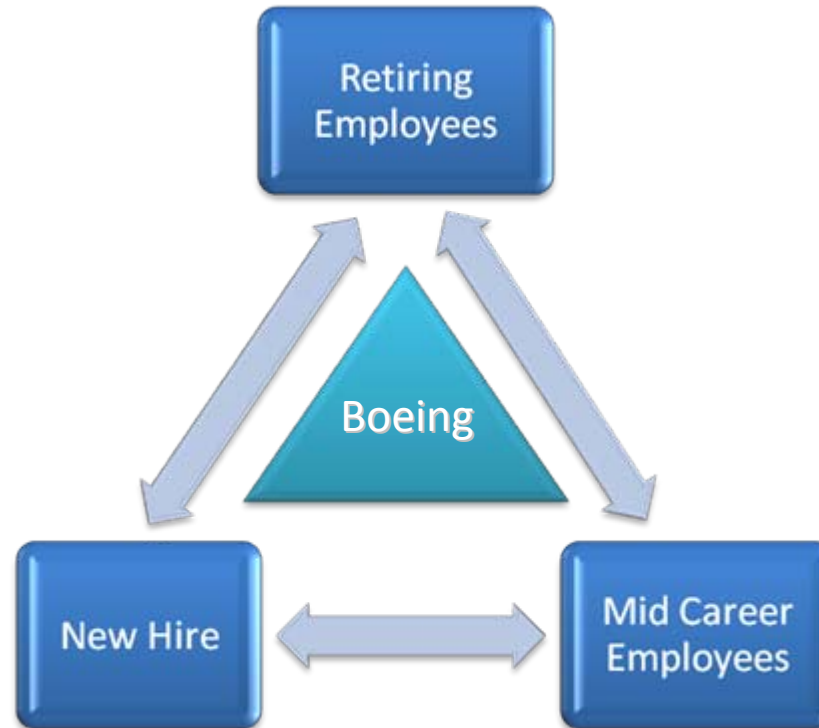
Leverage Existing Tools

- Wiki
- Blog
- Instant Messenger
- Email
- Distribution Lists
- SharePoint
- Discussion Groups
- Listservs
- TeamCenter

Leveraging existing tools and tools that fit the way people work will result in a higher level of adoption and use.

Include Everyone

ALERT



- Need to focus on all three elements of the workforce
- Focusing on only one or two of the elements would result in potential problems in the overlooked elements
 - Example: Working an initiative to capture retiring employees knowledge and designing ways for new hires to integrate more easily could result in mid career employees feeling left out and not cooperating with either effort.

Key Lessons

- KM starts and ends with people – no amount of technology can get people to share
 - 80-90% of what a corporation knows is in the heads of the employees
 - The vast majority of KM projects that started with technology failed
 - Technology is an enabler, not the final solution
 - Culture – People – Process – Tools and Technology, and in that order
- Trust is the coin of the realm for knowledge sharing.
 - The more trust there is the deeper the knowledge shared
 - Experts do not share because of trust, not time issues
- Focus on all generations – focusing on one to the exclusion of the others will lead to major problems
 - “Old age and treachery will always overcome youth and exuberance”
- Identify business strategies first, then supporting knowledge strategies, then KM activities
- Your KM metrics are your business metrics.

Key Lessons

- Senior leadership buy-in is essential – but that does not mean their cannot be grassroots efforts
- Engage “key” stakeholders when starting a project
- You get what you pay for – zero budget, zero results
- “Resistance is futile – you will be assimilated” only works for the Borg in Star Trek
 - Find the root cause and work the issues before you start deployment
 - Trust issues
 - Nobody cared before about what I knew
 - Leaving a legacy ?
- Start with small pilots that will be successful and then ramp up quickly
- Collect success stories and share them broadly – success breeds success
- Leveraging existing tools and tools that fit the way people work will result in a higher level of adoption and use.
- Wisdom of the crowds is not as chaotic as it sounds 😊

"The idea is not to create an encyclopedia of everything that everybody knows, but to keep track of people who 'know the recipe', and nurture the technology and culture that will get them talking."

Arian Ward, Hughes Space and Communications

"Knowledge is embodied in people gathered in communities and networks. The road to knowledge is via people, conversations, connections and relationships. Knowledge surfaces through dialog, all knowledge is socially mediated and access to knowledge is by connecting to people that know or know who to contact."

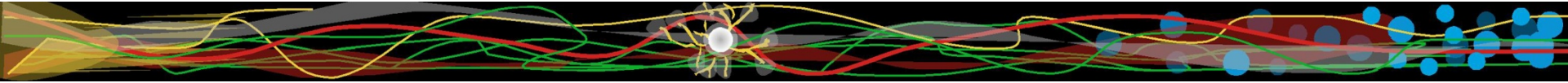
Denham Grey

"The illiterate of the twenty-first century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn."

Alvin Toffler

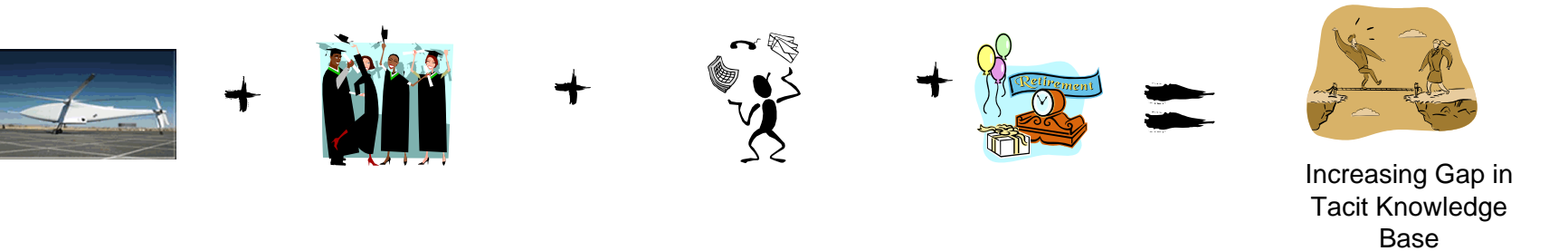
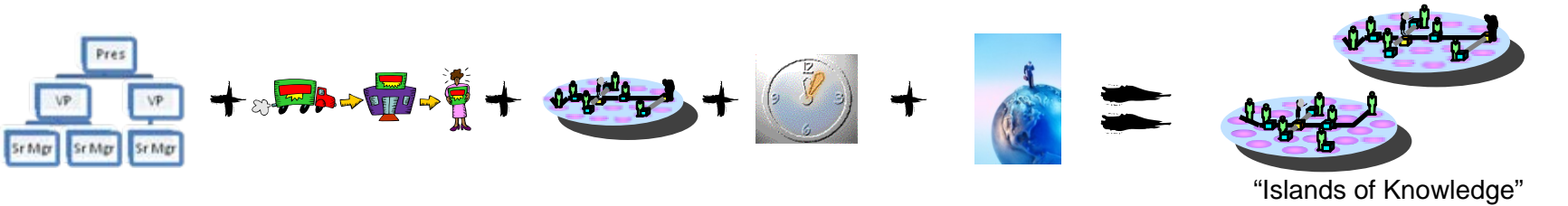
Boeing Today

Boeing KM Today

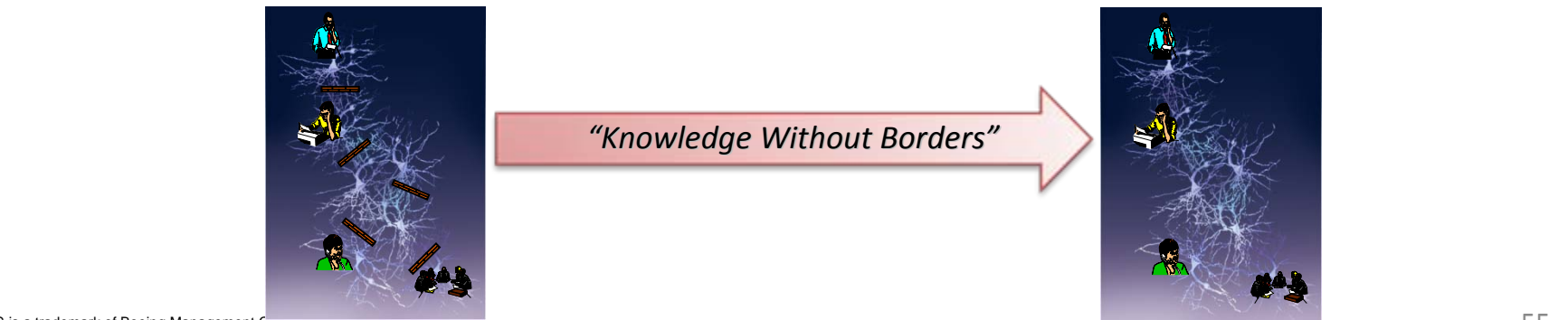


- Knowledge Centric
- Accidental collisions – the social side
- KM on teams – learn before, during, and after
- Embedding KM
 - Learning Management and KM
 - Process Based KM
 - Risk Management Strategy
- Web 2.0 integration
- Secure Knowledge Management
- Knowledge Sharing Communities
- Distraction Management
- Knowledge Flow Optimization

Today



Tomorrow



“Knowledge Without Borders”

We are a borderless environment where knowledge is instantly leveraged for innovation, competitive advantage, sustainable performance, and enhanced productivity. This environment empowers an adaptable and agile workforce to rapidly respond to market drivers and anticipate customer needs.

